

Punganur cattle – Wonder breed of Andhra Pradesh

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Punganur Cattle is one of the world's smallest *Bos indicus* cattle originated in Punganur town in Chittoor district of Andhra Pradesh. This breed is known for its short stature, high milk production efficiency and efficient reproductive characters. The Jamindars of Punganur were erstwhile Diwans in the Princely state of Mysore. They took fancy on this small breed of cattle and improved this breed and got the name as Punganur breed of cattle. These animals were found in the taluks of Palamaner, Madanapalli, Vayalpad, Piler and Chandragiri. However the breed is on the verge of extinction due to extensive indiscriminate crossbreeding over a period of time in breeding tract. Attempts are made to rescue the breed at Livestock Research Station, Palamaner, under Sri Venkateswara Veterinary University. Under the ICAR adhoc scheme on the "Preservation and improvement of Punganur breed of cattle", a demographic survey was conducted in the year 1993 in the breeding tract in Chittoor district covering about 150 villages. The major effort was to multiply the stock and study the morphological characters, production and reproduction parameters. The most important physical character is the height of the animal which is approximately one metre. The animals have a long tail almost touching the ground, which is the most unique feature of this particular breed. Reddy et al (2004) reported a lactation yield of 633.4+21.7 litres over a lactation period of 272.0+8.9 days with an average milk yield of 2.29+0.06 lts. The peak yield was 3.92+ 0.11 litres reached in 33.5+1.6 days and an average dry period of 188.1+11.54 days. These animals can be maintained economically and can survive on scarce grazing conditions with minimal care and shelter. Later a NATP project on "Conservation on Punganur Germplasm by Semen Preservation" was undertaken during the years 1999 to 2004 with the objective to produce 500 doses of frozen semen from 25 unrelated bulls procured from the field and 5000 doses of semen produced during the project was handed over to the NBAGR, Karnal for future use. At present embryos collected from Punganur cows are being cryopreserved for future purpose.

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Renewable energy in Eritrea: Prospects and challenges

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Eritrea has no developed fossil energy resources; 79% of Eritrea's primary energy supply and 82% of the final energy consumption is derived from biomass sources, mainly fuel wood, charcoal, dung and agricultural residues. All its electricity is produced from oil-fired generators and serves about 33% of the population. This dependence on unmanaged biomass energy and imported oil is unsustainable and environmentally destructive. Fuel wood harvest rates are 2.4% to 2.8% of the forest stock, although the recommended sustainable harvest rate for the semi-arid parts of Sub-Saharan Africa is 1.25%, leading to various environmental problems, particularly loss of biodiversity; based on a partial list, 22 tree species are currently threatened by extinction. Moreover, driven by population growth, changing lifestyles, urbanization, growing economy, rural electrification programmes, irrigation farming, and increasing number of social facilities like health centers, schools and clean water supply systems, the demand for electricity is growing. This is straining the country's limited power generation capacity. The country is thus shifting to renewables-based energy supply system. Eritrea has promising potential in renewables such as biomass, solar, wind, geothermal, mini hydro and possibly tidal waves. The Ministerial Cabinet Meeting of 9 March 2012 called for concerted actions on reinforcing activities towards harnessing energy potentials and creating suitable ground for developing solar, wind and geothermal potentialities of the country. The paper discusses the various initiatives being taken to develop renewable energy sources and technologies and the challenges faced.

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